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ABSTRACT

The research reported in this paper examined data related to the characteristics of interlibrary loan borrowers, the material borrowed, the question of cost and time it takes to acquire the material, and staff information and procedures. The variables were coded onto computer cards and then tabulated into frequency tables by the computer. There were four major findings discovered as a result of this investigation. First, the average total time it takes for a request to be filled is twenty-three days. Borrowing costs were insignificant, while 75 per cent of the photocopied requests cost only ten cents per page. The concept of a heavy user of interlibrary loan from one department or agency was the third major finding. The fourth and final finding was the percentage breakdown of the number of requests filled on successive passes. This methodology could conceivably be applied to the interlibrary loan services of other medium and large research libraries. (Author/SJ)

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INTERLIBRARY LOAN BORROWING: A METHODOLOGY FOR ANALYSIS

A Research Paper

Presented to

The Graduate School of Librarianship

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in Librarianship

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by

Michael A. Newsham

August 1973

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This research paper examined data related to the characteristics of interlibrary loan borrowers, the material borrowed, the question of cost and time it takes to acquire the material, and staff information and procedures. The variables were coded onto computer cards and then tabulated into frequency tables by the computer.

There were four major findings discovered as a result of this investigation. First, the average total time it takes for a request to be filled is twenty-three days.

Borrowing costs were insignificant, while 75 per cent of the photocopied requests cost only ten cents per page.

The concept of a heavy user of interlibrary loan from one department or agency was the third major finding.

The fourth and final finding was the percentage breakdown of the number of requests filled on successive passes.

This methodology could conceivably be applied to the interlibrary loan services of other medium and large research libraries.

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INTRODUCTION

This paper is the result of a research project concerning interlibrary borrowing at the University of Colorado Libraries, Boulder. Interlibrary lending was not considered. The investigation was an attempt to gather data related to characteristics of the borrower, characteristics of the material borrowed, and information for staff and about procedures. It also attempted to provide data pertinent to the two questions most frequently asked by the borrower:

(1) How long will it take to obtain the required piece of material?

(2) How much will it cost?

This data will be used by the head of interlibrary loan at the University of Colorado Libraries to aid in designing improvement of interlibrary loan instruction

and library user information, to examine staffing, and to improve interlibrary loan procedures.

Many of the contemporary studies have tried to analyze interlibrary loan from the standpoint of determining the success rate of filling requests, and the affect of certain variables on this rate of success.

Three studies are reviewed here, Sarah Katharine Thomson's Interlibrary Loan Involving Academic Libraries[1]; Vernon Palmour's A Study of the Characteristics, Costs, and Magnitude of Interlibrary Loans in Academic Libraries[2]; and A Feasibility Study of Centralized and Regionalized Interlibrary Loan Centers by Rolland E. Stevens.[3]

The Thomson study was based on a sample of 5,895 interlibrary loan requests from eight major university lending libraries. This study attempted to identify factors which influence the success or failure of interlibrary loan and to present recommendations which would further the

effectiveness of interlibrary loan.

Thomson lists seven factors that affect the success or failure of interlibrary loan:[4]

(1) Size and type of library

(2) Proximity to lending library

(3) Academic status of the reader and his area of study

(4) Characteristics of the material requested (type of material, language, place of publication, and date)

(5) Accuracy and completeness of bibliographic citation

(6) Verification and bibliographic holdings of the borrowing libraries

(7) Location through union lists, union catalogs, and bibliographical centers

These factors were analyzed in light of five sets of data which included:[5]

(1) Reports from academic libraries to the U.S. Office of Education for 1963-1964

(2) Interlibrary loan requests

(3) Questionnaires from major academic lending libraries

(4) Questionnaires from other libraries

(5) Unverified requests (an attempt was made to verifiy a random sample of the 5,895 requests)

The Palmour study was an effort to gather data on the costs of interlibrary loans, the characteristics of the material borrowed and loaned, and the present and future magnitude of interlibrary loan.[6]

Several of the factors that Thomson studied were considered by Palmour. In addition, the variables time, subject field of request, method of receiving request, and reason for unfilled requests were studied for their effects on interlibrary loan by Palmour.

The sample size was established at twelve libraries and approximately 8,000 lending and borrowing requests.[7]

Stevens' A Feasibility Study of Centralized and Regionalized Interlibrary Loan Centers reviewed the literature on the interlibrary loan process to determine the feasibility of a national lending center or a regional interlibrary lending system.

This report was not original research, but rather a

synthesis of the literature on interlibrary loan, relying heavily on the Thomson and Palmour studies. The major conclusion reached by Stevens was that a national system of bibliographical centers should be created from existing large libraries through a contractual agreement for compensating them for their services on a regional and national basis.

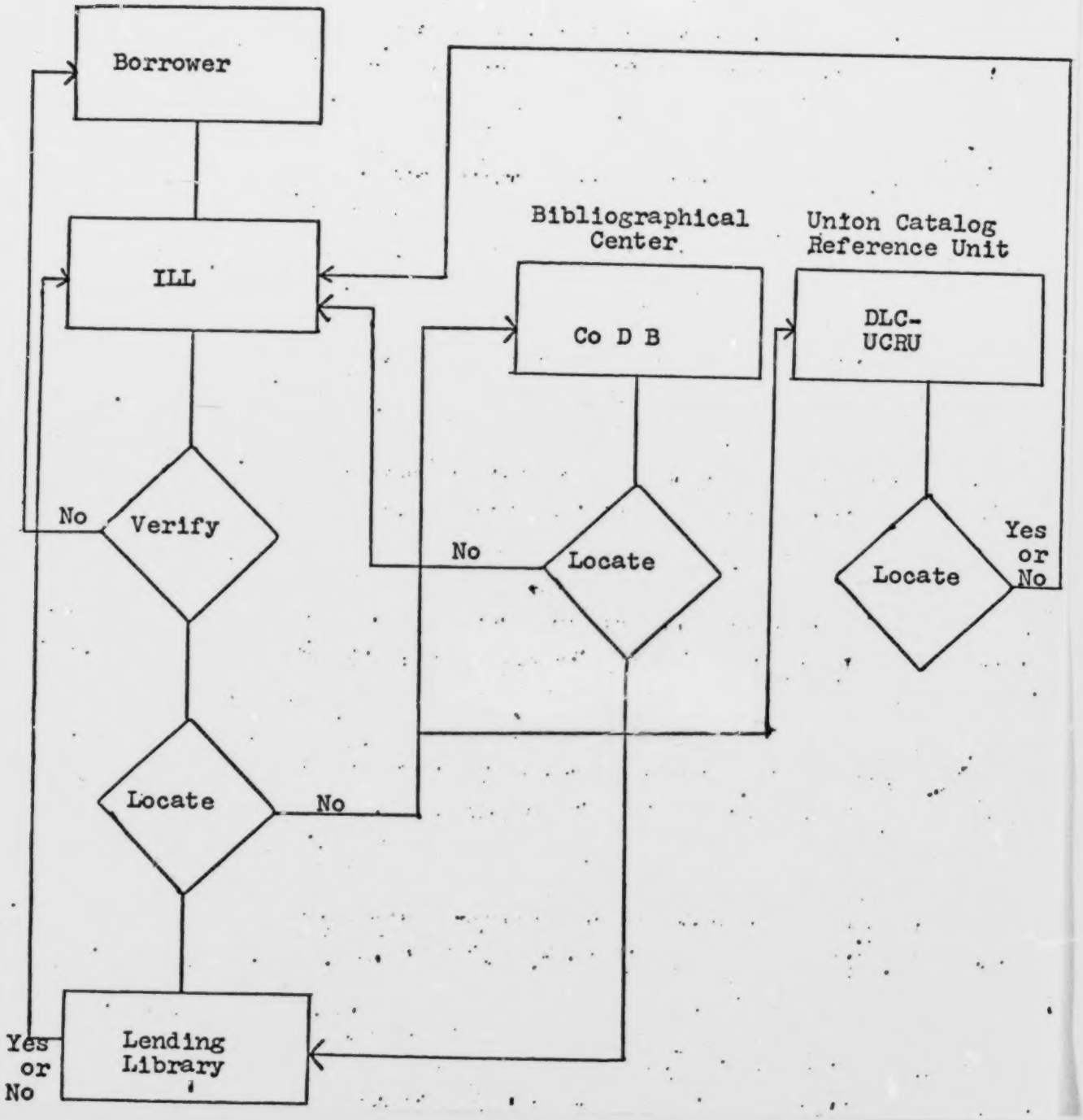
There are some very good definitions related to interlibrary loan in this study, especially the one for "pass" or "passes": the activity of receiving and processing an interlibrary loan request by a potential lender. If the library that first receives the request supplies the item, it is one "pass"; if application must be made to more than one library, each attempt is considered a "pass".[8]

This area of the number of passes it takes to fill a request is one area that has not been investigated previously. In the section concerning procedures of this paper,

there is an analysis of percentage of requests that were filled on the first through fifth passes for an item.

It is necessary to understand the process of interlibrary loan in order to understand what was investigated. (See Flow Chart on page 7.) Interlibrary loan can be divided roughly into three parts, the first of which takes place at the borrowing library. This part of the operation includes the borrower's initial request. (See Appendix I.) This request may be made for a periodical, a book, a newspaper, a dissertation, etc., or for a photocopy of the same or portions thereof. The other procedures in the first part of the operation are the verification of the item for complete bibliographic accuracy in a standard bibliographic tool and the location of a library which owns the item. The latter task is accomplished through the use of a bibliographic tool or through a bibliographical center such as the Bibliographical Center for Research in Denver.

FLOW CHART


Borrower
ILL
Bibliographical Center
Co D B
Union Catalog Reference Unit
DLC-UCRU
No
Verify
No
Locate
Locate
Yes or No
Locate
No
Yes or No
Lending Library

or the Union Catalog Reference Unit of the Library of Congress.

The second part of the interlibrary loan process is the transmission of the request to the lending library. Every time a request is sent to a potential lending library, that request is considered a "pass", whether the request is filled or not. The request can be transmitted in a number of ways, e.g. postal service, TWX, courier, or some other manner.

The third step in this process is the retrieval and sending of the requested item by the lending library to the borrowing library. This step is to a certain extent dependent on whether the item was verified by the borrowing library, and, if not, the amount of time the lending library spends verifying; whether the lending library actually owns the material; and whether the lending staff allows for speedy or slow service. The University of Colorado has

a policy of transmitting only verified and located requests in general accordance with the Colorado Interlibrary Loan Code; the National Interlibrary Loan Code, 1968; and Thomson's Procedure Manual.[9]

This paper is concerned mainly with the effects of certain variables in the first two steps and only with the actual length of time that it took for the third step to be carried out. It is not concerned with the variables that affect the time range of the third step.

The Palmour and Thomson studies were efforts that tried to determine what variables affect the success rate of interlibrary loan borrowing by looking at the problem on a macroscopic scale. These studies used a large sample of interlibrary loan requests from a cross-section of university libraries in their analysis of factors affecting interlibrary loan.

On the other hand, this investigation used a sample

from a single borrowing library's requests, giving a different slant to the analysis of interlibrary loan. The microscopic scale of this methodology allows for the evaluation of the effects of certain factors on successful interlibrary loan requests in a single library.

METHODOLOGY

The sample used in this investigation was taken from transactions completed during the time period from March 1 to May 31, 1973. The 578 requests which made up the sample represented 12.6 per cent of the 4,582 requests that were processed in the 1972-1973 school year.

Since the project was started in the last week of March, some requests completed between March 1 and that time were eliminated. Not all the information necessary for the study was included in these requests.

Since interlibrary loan operations do not vary greatly from library to library, the following methodology could be used by the interlibrary loan services of other medium and large research libraries for evaluating their own operations:

The methodology can be separated into two operations: data collection and data tabulation. The data was taken from interlibrary loan requests (see Appendix I for examples) and tabulated using a Burroughs 6700 computer.

The variables studied were taken from these forms, or from information added to the forms by the staff. All of the variables pertain to one of the four information categories: the borrower, the material borrowed, the information most frequently sought by the borrower (the cost of a particular item and the length of time it will take to acquire an item), and interlibrary loan procedures. Hereafter, the term borrowing will also denote, in addition to its usual meaning, the purchasing of some form of a copy of the material, i.e. a photocopy or microform.

Several steps went into data tabulation. The first consisted of the transfer of the information on interlibrary loan request forms to an Algol coding sheet. The data was

then key-punched from the coding sheet onto computer cards. Each data card contained the information from one request and was considered one transaction.

Next, the data cards were run in a lister program which merely printed out the information as it was punched on the cards. (See Appendix III for an example of output.) This greatly facilitated the process of checking the accuracy of the key-punching.

The final step in the data tabulation consisted of using a pre-packaged program entitled SPSS---Statistical Packages for the Social Sciences, which is operational on a Burroughs 6700 computer. This general purpose program allows a mass of data to be tabulated in various ways through the use of control cards which initiate subprograms.

There are several control elements which go into the SPSS program. These elements take the form of a control word or words that, when used, initiate subprograms in the

SPSS system. This eliminates the necessity of an investigator being a trained programmer and requires only that he understand the statistical procedures that the various subprograms execute.

This investigation used the CODEBOOK procedure which generated tables that contain the following information in columnar form: value labels (in some cases), value, absolute frequency, relative frequency, adjusted frequency (per cent), and cumulative adjusted frequency (per cent). A distinction must be made here between relative frequency, adjusted frequency, and cumulative adjusted frequency.

The relative frequency figure represents the percentage frequency of the individual values given in the frequency table as compared to the total number of values possible, 578. On the other hand, the adjusted frequency figure is the percentage frequency of the individual values given in the table as compared to the actual number of valid observations

made. For example, in Table I---Newspaper Verification, on page 16, the bottom left of the table shows that there were five valid observations and 573 missing observations. In the relative frequency column, the value "Ø" was counted four times, which was 0.7 per cent of the total possible number of values, but was 80 per cent of the number of actual values counted. The last column, cumulative adjusted frequency, is the cumulation of adjusted frequency. Hence, the first value "Ø" accounting for 80 per cent of the observed cases is added to 20 per cent which accounts for the rest of the observed cases, and the result is 100 per cent. At times, the relative frequency and adjusted frequency are identical, indicating that there are no missing values. This confirms that 578 values were observed within that variable.

There are numerous computational capabilities available within the SPSS system. Procedural control cards execute

TABLE I---NEWSPAPER VERIFICATION

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	4	0.7	80.0	80.0
	1.00	1	0.2	20.0	100.0
	13.00	573	99.1	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.200	MEDIAN	0.000	MODE	0.000
SKEWNESS	1.500				

VALID OBSERVATIONS - 5
MISSING OBSERVATIONS - 573

subprograms which generate absolute frequency tables for all of the variables, print out the assigned variable and value labels on the tables, compute the mean, median, and mode, and print them appropriately labeled at the bottom of each table.

Obviously these three statistics were not always relevant to the variable being run. Table II---Personal Screening, on page 18, is an example of this irrelevancy. First, this is only a two value variable, so the mode can be easily determined just from examination of the frequency table. Second, for a two-value table, the median is not a valid statistic. Finally, the mean is also a meaningless statistic, as can be seen from examination of the table: only Ø or 1 are meaningful values; 0.547 is not.

In some instances, there were not 578 valid observations within each variable due to missing values, e.g. requests that were returned to the borrower did not have

TABLE II--PERSONAL SCREENING

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
REQUEST NOT SCREENED	0.00	314	54.3	54.3	54.3
REQUEST SCREENED	1.00	264	45.7	45.7	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.457	MEDIAN	0.000	MODE	0.000
SKEWNESS	0.174				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

a value for the variable Library Supplying the Request.

Using the methodology described above, variables for each of the 578 cases were tabulated.

FINDINGS AND DISCUSSION

This section of the paper examines the variables that were tabulated. The examination consists of the results, the analysis, and the interpretation of the results.

BORROWER CHARACTERISTICS

First to be analyzed are the characteristics that pertain to the borrower: borrower status, department or school of the university, and whether or not the request was returned to the user and the reason for its return.

Borrower status

From Table III---Borrower Status, page 21, it can be seen that faculty, graduate students (masters and doctoral degree candidates), and staff in nearly equal numbers account for a majority of the requests, 86.7 per cent.

TABLE III---BORROWER STATUS

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
FACULTY	0.00	160	27.7	27.7	27.7
GRAD STD-MA	1.00	62	10.7	10.7	38.4
GRAD STD-DOC	2.00	149	25.8	25.8	64.2
STAFF	3.00	130	22.5	22.5	86.7
UNDERGRAD	4.00	31	5.4	5.4	92.0
ACQ DEPT-LIB	5.00	4	0.7	0.7	92.7
SERIALS-LIB	6.00	42	7.3	7.3	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	1.983	MEDIAN	2.000	MODE	0.000
SKEWNESS	0.680				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

In this investigation, 22.5 per cent of the requests were generated by staff, as compared to the much lower figure of 6.6 per cent in the Thomson study.[10]

The discrepancy between the staff use percentage of the Thomson study and the staff use percentage of this investigation can be attributed to one heavy user from the Student Life Center. (See Table IV---Department Classification of the Borrower on page 23.) The interlibrary loan staff at the University of Colorado Libraries has noted in the past that at any point in time there is almost always one or two users from a department or agency who make extensive use of interlibrary loan. This user has shown up in the present statistics as a staff member from the Student Life Center. In this particular instance, the staff of the Student Life Center was editing a book which necessitated heavy use of psychiatric materials from the University of Colorado Medical Center Library in Denver via interlibrary loan.

TABLE IV---DEPARTMENT CLASSIFICATION OF THE BORROWER

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
INSTAAR	11.00	4	0.7	0.7	0.7
INST BEH SCI	12.00	16	2.8	2.9	3.7
BSCS	13.00	1	0.2	0.2	3.8
STD LIFE CEN	14.00	96	16.6	17.6	21.4
LIB	16.00	69	11.9	12.6	34.0
MUSEUM	17.00	9	1.6	1.6	35.6
WICHE	18.00	7	1.2	1.3	36.9
PHYS PL	19.00	1	0.2	0.2	37.1
INST BEH GEN	20.00	14	2.4	2.6	39.7
OTHER	50.00	4	0.7	0.7	40.4
JAP	146.00	3	0.5	0.5	41.0
PRE-BUS	161.00	4	0.7	0.7	41.7
	402.00	3	0.5	0.5	42.2
ANTHRO	403.00	19	3.3	3.5	45.7
MUSIC	405.00	9	1.6	1.6	47.3
BIOL	407.00	14	2.4	2.6	49.9
CHEM E	411.00	2	0.3	0.4	50.3
CE	413.00	6	1.0	1.1	51.4

ECON	415.00	16	2.8	2.9	54.3
EDUC	416.00	18	3.1	3.3	57.6
EE	417.00	26	4.5	4.8	62.3
ENG LIT	419.00	9	1.6	1.6	64.0
COMPAR LIT	420.00	7	1.2	1.3	65.3
FRENCH	424.00	1	0.2	0.2	65.4
CHEM PHY	425.00	8	1.4	1.5	66.9
GEOG	426.00	3	0.5	0.5	67.5
GERM	428.00	11	1.9	2.0	69.5
GRK	429.00	1	0.2	0.2	69.7
ITAL	430.00	3	0.5	0.5	70.2
HIST	431.00	36	6.2	6.6	76.8
DEVEL BIOL	433.00	23	4.0	4.2	81.0
LING	436.00	6	1.0	1.1	82.1
MATH	439.00	1	0.2	0.2	82.3
ME	440.00	2	0.3	0.4	82.6
PHILOS	450.00	5	0.9	0.9	83.5
PE SLAVIC	451.00	6	1.0	1.1	84.6
PHYSICS	452.00	2	0.3	0.4	85.0
POL SCI	453.00	11	1.9	2.0	87.0
PSYCH	454.00	13	2.2	2.4	89.4

SOCIOL	457.00	9	1.6	1.6	91.0
SPAN	458.00	28	4.8	5.1	96.2
SPCH&DRAMA	459.00	2	0.3	0.4	96.5
CLASSICS	460.00	1	0.2	0.2	96.7
FA-ART HISTORY	468.00	9	1.6	1.6	98.4
ENG DESN	470.00	5	0.9	0.9	99.3
	471.00	3	0.5	0.5	99.8
PHARM	801.00	1	0.2	0.2	100.0
	0.00	31	5.4	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	260.547	MEDIAN	411.000	MODE	14.000
SKEWNESS	-0.307				

VALID OBSERVATIONS - 547
MISSING OBSERVATIONS - 31

This phenomenon would show up in the study of a single library, as in this investigation, but would be masked in a study of a cross-section of libraries where this occurence would become statistically insignificant.

Department Classification of the Borrower

Table IV (pages 23 through 25) shows that there were 547 valid observations. The 31 missing values were undergraduate requests which were not coded for department because this information was uhknown.

A total of 47 departments or agencies within the University used interlibrary loan, with fifteen departments or agencies accounting for a little more than 75 per cent of the requests. A further breakdown of these statistics showed that agencies, e.g. Student Life Center, the physical plant, the library (serials and acquisitions), etc., used interlibrary loan 40.4 per cent of the time while academic departments used it 59.6 per cent. Within the departments,

the three areas, social sciences (23.5 per cent), humanities (17.7 per cent), and sciences and technology (18.4 per cent) had a fairly equal distribution of requests.

Request Returned to Borrower

Table V---Request Returned To Borrower (page 28) shows that 9.4 per cent of the requests were returned to the borrower before the request left the interlibrary loan office. The two most common reasons were that the material was in the University of Colorado Libraries or that the borrower cancelled the request.

The fact is that nearly 7 per cent of the borrowers, 95 per cent of whom were staff, graduate students, faculty, or library staff, did not look for or were unable to locate the item they wanted in the card catalog or the Catalog of Serials of the University of Colorado Libraries.

CHARACTERISTICS OF MATERIAL BORROWED

The next group of variables to be examined are those

TABLE V---REQUEST RETURNED TO BORROWER

VARIABLE REQRET REQUEST RETURNED

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
REQUEST NOT RETURNED	0.00	524	90.7	90.7	90.7
MAT IN LIBRARY	1.00	38	6.6	6.6	97.2
MAT BEING USED-CALL	3.00	1	0.2	0.2	97.4
THESIS AVAILABLE FRO	6.00	1	0.2	0.2	97.6
UNABLE TO VERIFY AS	7.00	2	0.3	0.3	97.9
LIBRARY USER CANCELL	8.00	8	1.4	1.4	99.3
OTHER	9.00	4	0.7	0.7	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.279	MEDIAN	0.000	MODE	0.000
SKEWNESS	5.674				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

concerning the characteristics of the material borrowed: language of request, date of material requested, subject of material requested, form of request, and form of request received.

Language of Request

The figures in Table VI---Language of material (page 30) are suspected of errors in the original data collection. The proportion of English language periodical articles seems too high at 79.9 per cent, because in the scientific periodical indexes, particularly, the title of the article will be in English regardless of the language of the text. The language of the text is often placed in parentheses next to the article title. Interlibrary loan procedure does not include language as one of the required pieces of information for processing. Therefore, to acquire this information would have necessitated the re-checking of the requests for language, an impossible task considering time and staff.

TABLE VI---LANGUAGE OF MATERIAL

VARIABLE LANG LANGUAGE

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
ENG	0.00	462	79.9	79.9	79.9
GERM	1.00	40	6.9	6.9	86.9
FRCH	2.00	34	5.9	5.9	92.7
ITAL	3.00	4	0.7	0.7	93.4
LATIN	4.00	3	0.5	0.5	93.9
SPAN	5.00	17	2.9	2.9	96.9
RUSS AND SLAVIC	8.00	8	1.4	1.4	98.3
OTHER	9.00	10	1.7	1.7	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.642	MEDIAN	0.000	MODE	0.000
SKEWNESS	3.414				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

The University of California at Berkeley had 62 per cent of its requests in English.[11] The Thomson study put that same item at 67 per cent,[12] while Stevens quoted the figure of about 85 percent,[13] as did Palmour.[14]

German is the second most common language encountered both at Colorado and Berkeley.

Date of Material Requested

Table VII---Date of Material Requested (page 32) shows that of the 578 valid observations, 94.8 per cent of the requests had imprint dates from 1900 to 1973. Of those, 82 per cent were from 1940 to 1973. Thus, the most recent materials were the most requested. The Palmour study gave similar fiugres.[15]

Subject of Material Requested

In Table VIII---Subject of Material Requested (page 33), the subject of the material was denoted by the letter part of the Library of Congress Classification. The

TABLE VII--DATE OF MATERIAL REQUESTED

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
1700-1749	2.00	2	0.3	0.3	0.3
1800-1849	4.00	5	0.9	0.9	1.2
1850-1899	5.00	22	3.8	3.8	5.0
1900-1939	6.00	74	12.8	12.8	17.8
1940-1969	7.00	357	61.8	61.8	79.6
1970-1973	8.00	117	20.2	20.2	99.8
UNKNOWN	9.00	1	0.2	0.2	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	6.958	MEDIAN	7.000	MODE	7.000
SKEWNESS	-1.521				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

TABLE VIII---SUBJECT OF MATERIAL REQUESTED

VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
RC	119	20.6	20.6	20.6
QL	19	3.3	3.3	23.9
	1	0.2	0.2	24.0
LB	15	2.6	2.6	26.6
AN	6	1.0	1.0	27.7
TK	6	1.0	1.0	28.7
QK	12	2.1	2.1	30.8
RK	5	0.9	0.9	31.7
HV	5	0.9	0.9	32.5
HM	6	1.0	1.0	33.6
ML	12	2.1	2.1	35.6
GN	9	1.6	1.6	37.2
ND	6	1.0	1.0	38.2
DA	7	1.2	1.2	39.4
M	3	0.5	0.5	40.0
Z	10	1.7	1.7	41.7
RJ	3	0.5	0.5	42.2
L	1	0.2	0.2	42.4
HN	6	1.0	1.0	43.4
PJ	2	0.3	0.3	43.8
QD	3	0.5	0.5	44.3
DS	7	1.2	1.2	45.5

HD	9	1.6	1.6	47.1
G	3	0.5	0.5	47.6
CB	4	0.7	0.7	48.3
HT	2	0.3	0.3	48.6
SK	3	0.5	0.5	49.1
QH	17	2.9	2.9	52.1
D	3	0.5	0.5	52.6
HB	9	1.6	1.6	54.2
BF	19	3.3	3.3	57.4
VM	5	0.9	0.9	58.3
DR	2	0.3	0.3	58.7
HF	11	1.9	1.9	60.6
CC	1	0.2	0.2	60.7
QA	4	0.7	0.7	61.4
PZ	8	1.4	1.4	62.8
PC	2	0.3	0.3	63.1
Q	6	1.0	1.0	64.2
DK	1	0.2	0.2	64.4
PG	2	0.3	0.3	64.7
T	1	0.2	0.2	64.9
PR	8	1.4	1.4	66.3
DG	1	0.2	0.2	66.4
PN	15	2.6	2.6	69.0
DT	2	0.3	0.3	69.4
B	1	0.2	0.2	69.6
BL	6	1.0	1.0	70.6
E	4	0.7	0.7	71.3
PS	6	1.0	1.0	72.3
HA	1	0.2	0.2	72.5

PT	6	1.0	1.0	73.5
HG	4	0.7	0.7	74.2
PQ	12	2.1	2.1	76.3
HC	4	0.7	0.7	77.0
PL	2	0.3	0.3	77.3
N	2	0.3	0.3	77.7
GR	1	0.2	0.2	77.9
TD	3	0.5	0.5	78.4
JS	1	0.2	0.2	78.5
TN	5	0.9	0.9	79.4
GV	6	1.0	1.0	80.4
PD	2	0.3	0.3	80.8
BD	1	0.2	0.2	81.0
HE	3	0.5	0.5	81.5
PA	3	0.5	0.5	82.0
F	6	1.0	1.0	83.0
RM	7	1.2	1.2	84.3
RB	13	2.2	2.2	86.5
GP	19	3.3	3.3	89.8
HQ	4	0.7	0.7	90.5
RD	7	1.2	1.2	91.7
RE	2	0.3	0.3	92.0
AP	5	0.9	0.9	92.9
JN	1	0.2	0.2	93.1
LC	2	0.3	0.3	93.4
BP	1	0.2	0.2	93.6
TA	2	0.3	0.3	93.9

TP	2	0.3	0.3	94.3
TH	1	0.2	0.2	94.5
MT	1	0.2	0.2	94.6
R	3	0.5	0.5	95.2
K	2	0.3	0.3	95.5
LD	2	0.3	0.3	95.8
QR	2	0.3	0.3	96.2
PA	2	0.3	0.3	96.5
TL	1	0.2	0.2	96.7
QE	1	0.2	0.2	96.9
RG	1	0.2	0.2	97.1
SB	1	0.2	0.2	97.2
QC	4	0.7	0.7	97.9
JF	1	0.2	0.2	98.1
TF	1	0.2	0.2	98.3
B7	1	0.2	0.2	98.4
BS	1	0.2	0.2	98.6
LA	3	0.5	0.5	99.1
NC	1	0.2	0.2	99.3
BT	1	0.2	0.2	99.5
JX	1	0.2	0.2	99.7
DD	1	0.2	0.2	99.8
LG	1	0.2	0.2	100.0
????	0	0.0	MISSING	100.0
TOTAL	578	100.0	100.0	100.0

VALID OBSERVATIONS = 578
MISSING OBSERVATIONS = 0

preponderance of requests for medical materials, on the other hand, which encompassed 22.8 per cent of the requests, was mostly a result of the extremely heavy user from the Student Life Center who was requesting psychiatric materials. With medicine removed from consideration, the requests were nearly evenly divided between humanities, social sciences, and science and technology.

Form of Material Requested and Form of Material Received

Tables IX and X, Form of Material Requested and Form of Material Received, respectively, should be examined together for proper analysis. (See pages 38 and 39.) Books and photocopies of periodicals were the two predominant forms of material requested and received. The main conclusion that can be made from the inspection of the two tables is that what is asked for is usually what is received.

TABLE IX---FORM OF MATERIAL REQUESTED

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
BOOK	0.00	234	40.5	40.5	40.5
DOC	1.00	1	0.2	0.2	40.7
THESIS	2.00	17	2.9	2.9	43.6
MIC TO BORROW	4.00	7	1.2	1.2	44.8
XEROX OF PER	5.00	314	54.3	54.3	99.1
XEROX OF OTHER	6.00	3	0.5	0.5	99.7
MIC TO PURCH	7.00	2	0.3	0.3	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	2.881	MEDIAN	5.000	MODE	5.000
SKEWNESS	-0.284				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

TABLE X---FORM OF MATERIAL RECEIVED

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
BOOK	0.00	263	45.5	45.5	45.5
THESIS	1.00	16	2.8	2.8	48.3
PER	2.00	17	2.9	2.9	51.2
MIC TO BOR	3.00	4	0.7	0.7	51.9
XEROX OF PER	4.00	269	46.5	46.5	98.4
XEROX OF OTHER	5.00	2	0.3	0.3	98.8
MIC TO PURCH	6.00	6	1.0	1.0	99.8
OTHER	8.00	1	0.2	0.2	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	2.062	MEDIAN	2.000	MODE	4.000
SKEWNESS	0.057				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

BORROWERS' QUESTIONS

The next group of variables to be examined are those relating to the two questions borrowers most frequently ask: "How long will it take?" and "How much will it cost?" The variables which pertain are: initial time in office, Bibliographical Center answer time and answer, NUC (the Union Catalog Reference Unit of the Library of Congress) answer time and answer. All times are based on the seven day week.

When the source for a particular item cannot be found, the request is sent to the Bibliographical Center, and if not located there, it is sent to the Union Catalog Reference Unit of the Library of Congress. Occasionally requests are sent directly to the Union Catalog Reference Unit.

Initial Time in Office

The inital time in the office is that time period from

the receipt of the borrower's request until the forwarding of the request to a lending library or to an agency for locations. The processing at this time includes verification and location procedures and transmission. From Table XI---Initial Time in Office (page 42) the mean is seen to be 3.33 days, the mode to be 0 days, and the median, 1 day. From the accompanying table, it can be seen that almost 90 per cent of the requests were in and out of the office within five days. Turn around time information for the borrower can be estimated at three days.

The Bibliographical Center Answer Time and Answer

From Table XII---Bibliographcal Center Answer (page 44) it can be seen that only 6.5 per cent of the total requests were sent to the Bibliographical Center. Table XIII---Bibliographical Center Answer Time (page 45) shows that the mean answer time for the 55.2 per cent of the requests

TABLE XI---INITIAL TIME IN OFFICE

VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
0.00	218	37.7	37.7	37.7
1.00	151	26.1	26.1	63.8
2.00	45	7.8	7.8	71.6
3.00	56	9.7	9.7	81.3
4.00	32	5.5	5.5	86.9
5.00	13	2.2	2.2	89.1
6.00	14	2.4	2.4	91.5
7.00	6	1.0	1.0	92.6
8.00	4	0.7	0.7	93.3
9.00	2	0.3	0.3	93.6
10.00	4	0.7	0.7	94.3
11.00	1	0.2	0.2	94.5
12.00	1	0.2	0.2	94.6
13.00	1	0.2	0.2	94.8
14.00	3	0.5	0.5	95.3
15.00	1	0.2	0.2	95.5
16.00	1	0.2	0.2	95.7
17.00	2	0.3	0.3	96.0

18.00	3	0.5	0.5	96.5
19.00	1	0.2	0.2	96.7
20.00	3	0.5	0.5	97.2
21.00	2	0.3	0.3	97.6
26.00	1	0.2	0.2	97.8
27.00	1	0.2	0.2	97.9
29.00	1	0.2	0.2	98.1
30.00	1	0.2	0.2	98.3
31.00	1	0.2	0.2	98.4
40.00	1	0.2	0.2	98.6
41.00	1	0.2	0.2	98.8
45.00	1	0.2	0.2	99.0
66.00	1	0.2	0.2	99.1
70.00	1	0.2	0.2	99.3
86.00	1	0.2	0.2	99.5
99.00	3	0.5	0.5	100.0
TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	3.329	MEDIAN	1.000	MODE	0.000
SKEWNESS	6.976				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

TABLE XII--BIBLIOGRAPHIC CENTER ANSWER

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
SENT AND LOCS GIVEN	1.00	21	3.6	55.3	55.3
SENT THERE	2.00	17	2.9	44.7	100.0
NOT SENT TH	0.00	540	93.4	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	1.447	MEDIAN	1.000	MODE	1.000
SKEWNESS	0.212				

VALID OBSERVATIONS - 38
MISSING OBSERVATIONS - 540

TABLE XIII---BIBLIOGRAPHIC CENTER ANSWER TIME

VARIABLE BCTIME BIB CEN ANS TIME

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	2.00	1	0.2	2.6	2.6
	5.00	5	0.9	13.2	15.8
	6.00	10	1.7	26.3	42.1
	7.00	13	2.2	34.2	76.3
	8.00	4	0.7	10.5	86.8
	9.00	1	0.2	2.6	89.5
	10.00	2	0.3	5.3	94.7
	11.00	2	0.3	5.3	100.0
	0.00	540	93.4	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	6.868	MEDIAN	7.000	MODE	7.000
SKEWNESS	0.328				

VALID OBSERVATIONS - 38
MISSING OBSERVATIONS - 540

for which the Bibliographical Center found locations was 6.87 days; the median and the mode were 7.00 days. Turn around time information for borrowers is estimated as one week.

NUC Answer Time and Answer

The Union Catalog Reference Unit of the Library of Congress, as seen from Table XIV---NUC Answer on page 47, was sent 6.4 per cent of the total sample requesting locations. It was able to supply locations for 70.2 per cent of those requests within an average of 21.37 days; the median and the mode were 20 days. (See Table XV---NUC Answer Time, pages 48 and 49.) Turn around time information for borrowers is approximately three weeks.

Time to the Lending Library

Time to the Lending Library (Table XVI pages 50 through 53) is defined as the time from the request being sent to a lending library or libraries until the receipt

TABLE XIV--NUC ANSWER

VARIABLE NUCANS NUC ANS

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
LOCS GIVE	1.00	26	4.5	70.3	70.3
NO LOCS GIVEN	3.00	11	1.9	29.7	100.0
NOT SENT	0.00	541	93.6	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	1.595	MEDIAN	1.000	MODE	1.000
SKEWNESS	0.887				

VALID OBSERVATIONS - 37
MISSING OBSERVATIONS - 541

TABLE XV---NUC ANSWER TIME

VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
8.00	1	0.2	2.6	2.6
10.00	4	0.7	10.5	13.2
11.00	1	0.2	2.6	15.8
12.00	3	0.5	7.9	23.7
13.00	4	0.7	10.5	34.2
15.00	3	0.5	7.9	42.1
17.00	1	0.2	2.6	44.7
18.00	1	0.2	2.6	47.4
20.00	4	0.7	10.5	57.9
22.00	1	0.2	2.6	60.5
23.00	3	0.5	7.9	68.4
25.00	2	0.3	5.3	73.7
27.00	1	0.2	2.6	76.3
28.00	1	0.2	2.6	78.9
30.00	1	0.2	2.6	81.6
31.00	1	0.2	2.6	84.2
32.00	1	0.2	2.6	86.8
33.00	1	0.2	2.6	89.5
34.00	1	0.2	2.6	92.1
37.00	1	0.2	2.6	94.7
50.00	1	0.2	2.6	97.4
62.00	1	0.2	2.6	100.0
0.00	540	93.4	MISSING	100.0
TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	21.368	MEDIAN	20.000	MODE	20.000
SKEWNESS	1.546				

VALID OBSERVATIONS - 38
MISSING OBSERVATIONS - 540

TABLE XVI---TIME TO THE LENDING LIBRARY

VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
1.00	1	0.2	0.2	0.2
2.00	34	5.9	6.6	6.7
3.00	16	2.8	3.1	9.8
4.00	17	2.9	3.3	13.1
5.00	9	1.6	1.7	14.8
6.00	25	4.3	4.8	19.7
7.00	28	4.8	5.4	25.0
8.00	53	9.2	10.2	35.3
9.00	12	2.1	2.3	37.6
10.00	26	4.5	5.0	42.6
11.00	23	4.0	4.4	47.0
12.00	26	4.5	5.0	52.0
13.00	31	5.4	6.0	58.0
14.00	19	3.3	3.7	61.7
15.00	15	2.6	2.9	64.5
16.00	11	1.9	2.1	66.7
17.00	9	1.6	1.7	68.4
18.00	10	1.7	1.9	70.3

19.00	7	1.2	1.3	71.7
20.00	12	2.1	2.3	74.0
21.00	11	1.9	2.1	76.1
22.00	8	1.4	1.5	77.6
23.00	2	0.3	0.4	78.0
24.00	5	0.9	1.0	79.0
25.00	4	0.7	0.8	79.8
26.00	9	1.6	1.7	81.5
27.00	6	1.0	1.2	82.7
28.00	3	0.5	0.6	83.2
29.00	6	1.0	1.2	84.4
30.00	1	0.2	0.2	84.6
31.00	3	0.5	0.6	85.2
32.00	3	0.5	0.6	85.7
33.00	3	0.5	0.6	86.3
34.00	3	0.5	0.6	86.9
35.00	2	0.3	0.4	87.3
36.00	3	0.5	0.6	87.9
37.00	3	0.5	0.6	88.4
38.00	2	0.3	0.4	88.8
39.00	3	0.5	0.6	89.4

40.00	8	1.4	1.5	90.9
41.00	2	0.3	0.4	91.3
42.00	1	0.2	0.2	91.5
43.00	4	0.7	0.8	92.3
46.00	1	0.2	0.2	92.5
47.00	3	0.5	0.6	93.1
49.00	4	0.7	0.8	93.8
50.00	2	0.3	0.4	94.2
51.00	2	0.3	0.4	94.6
52.00	1	0.2	0.2	94.8
53.00	1	0.2	0.2	95.0
54.00	1	0.2	0.2	95.2
55.00	1	0.2	0.2	95.4
56.00	1	0.2	0.2	95.6
57.00	2	0.3	0.4	96.0
59.00	1	0.2	0.2	96.1
60.00	1	0.2	0.2	96.3
61.00	1	0.2	0.2	96.5
63.00	1	0.2	0.2	96.7
64.00	1	0.2	0.2	96.9
65.00	1	0.2	0.2	97.1

68.00	1	0.2	0.2	97.3
69.00	3	0.5	0.6	97.9
71.00	1	0.2	0.2	98.1
74.00	1	0.2	0.2	98.3
75.00	2	0.3	0.4	98.7
82.00	1	0.2	0.2	98.8
92.00	1	0.2	0.2	99.0
99.00	5	0.9	1.0	100.0
0.00	59	10.2	MISSING	100.0
TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	17.599		MEDIAN	12.000	MODE	8.000
SKEWNESS	2.257					
VALID OBSERVATIONS -	519					
MISSING OBSERVATIONS -	59					

TABLE XVII---TOTAL TIME

VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
1.00	1	0.2	0.2	0.2
2.00	6	1.0	1.1	1.3
3.00	39	6.7	7.4	8.8
4.00	9	1.6	1.7	10.5
5.00	6	1.0	1.1	11.6
6.00	22	3.8	4.2	15.8
7.00	23	4.0	4.4	20.2
8.00	44	7.6	8.4	28.6
9.00	13	2.2	2.5	31.0
10.00	20	3.5	3.8	34.9
11.00	23	4.0	4.4	39.2
12.00	22	3.8	4.2	43.4
13.00	20	3.5	3.8	47.2
14.00	23	4.0	4.4	51.6
15.00	14	2.4	2.7	54.3
16.00	4	0.7	0.8	55.0
17.00	17	2.9	3.2	58.3
18.00	9	1.6	1.7	60.0
19.00	7	1.2	1.3	61.3
20.00	12	2.1	2.3	63.6
21.00	12	2.1	2.3	65.9
22.00	6	1.0	1.1	67.0
23.00	7	1.2	1.3	68.4
24.00	2	0.3	0.4	68.8

25.00	5	0.9	1.0	69.7
26.00	10	1.7	1.9	71.6
27.00	7	1.2	1.3	73.0
28.00	6	1.0	1.1	74.1
29.00	4	0.7	0.8	74.9
31.00	3	0.5	0.6	75.4
32.00	1	0.2	0.2	75.6
33.00	6	1.0	1.1	76.8
34.00	4	0.7	0.8	77.5
35.00	5	0.9	1.0	78.5
36.00	3	0.5	0.6	79.0
37.00	4	0.7	0.8	79.8
38.00	1	0.2	0.2	80.0
39.00	1	0.2	0.2	80.2
40.00	3	0.5	0.6	80.8
41.00	9	1.6	1.7	82.5
42.00	4	0.7	0.8	83.2
43.00	4	0.7	0.8	84.0
44.00	1	0.2	0.2	84.2
45.00	1	0.2	0.2	84.4
46.00	8	1.4	1.5	85.9
47.00	2	0.3	0.4	86.3
48.00	1	0.2	0.2	86.5
49.00	3	0.5	0.6	87.0
50.00	2	0.3	0.4	87.4
51.00	1	0.2	0.2	87.6
52.00	4	0.7	0.8	88.4

53.00	1	0.2	0.2	88.6
54.00	2	0.3	0.4	89.0
55.00	4	0.7	0.8	89.7
56.00	4	0.7	0.8	90.5
57.00	6	1.0	1.1	91.6
59.00	1	0.2	0.2	91.8
60.00	1	0.2	0.2	92.0
61.00	1	0.2	0.2	92.2
62.00	1	0.2	0.2	92.4
63.00	2	0.3	0.4	92.8
64.00	1	0.2	0.2	93.0
65.00	2	0.3	0.4	93.3
68.00	2	0.3	0.4	93.7
70.00	4	0.7	0.8	94.5
71.00	2	0.3	0.4	94.9
72.00	3	0.5	0.6	95.4
74.00	1	0.2	0.2	95.6
75.00	2	0.3	0.4	96.0
78.00	1	0.2	0.2	96.2
79.00	1	0.2	0.2	96.4
84.00	1	0.2	0.2	96.6
85.00	1	0.2	0.2	96.8
91.00	1	0.2	0.2	97.0
99.00	16	2.8	3.0	100.0
0.00	53	9.2	MISSING	100.0
TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	23.267	MEDIAN	14.000	MODE	8.000
SKEWNESS	1.708				

VALID OBSERVATIONS - 525
MISSING OBSERVATIONS - 53

TABLE XVIII---BORROWER COSTS

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
MAT PURCH	0.00	124	21.5	21.5	21.5
PSTGE RETURN	1.00	13	2.2	2.2	23.7
BOOK BOR CTS	4.00	1	0.2	0.2	23.9
NOCTS	6.00	440	76.1	76.1	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	4.597	MEDIAN	6.000	MODE	6.000
SKEWNESS	-1.244				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

Photocopying Costs

The other most frequently asked question regarding the cost of interlibrary loan is "How much will photocopying cost?" At the University of Colorado Libraries, photocopying costs are passed on to the borrower. From Table XIX---Photocopying Costs (page 61) it was found that much of the material, 75 per cent, is listed as free, except for a ten cents per page charge. The medical network, which involves the University of Colorado Medical Center Library as an access point, is the only situation where the copy is actually free to the user. Of the requests, 9.4 per cent are one dollar or less. These are mostly requests sent to Mid-America State Universities Association (MASUA) where a special photocopying arrangement exists. An additional 7.6 per cent of the requests range from two to three dollars and 5 per cent of the requests cost three dollars or more.

TABLE XIX---PHOTOCOPYING COSTS

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
FREE	1.00	217	37.5	74.3	74.3
TO .99	2.00	27	4.7	9.2	83.6
FROM 1.00 TO	3.00	11	1.9	3.8	87.3
FROM 2.00 TO 2.99	4.00	22	3.8	7.5	94.9
CFOM 3.00 TO 3.99	5.00	3	0.5	1.0	95.9
FROM 4.00TO 4.99	6.00	3	0.5	1.0	96.9
FROM 5.00TO 9.99	7.00	6	1.0	2.1	99.0
FROM 10.00	8.00	3	0.5	1.C	100.0
PHOTCPY NOT REQUESTE	0.00	286	49.5	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	1.682	MEDIAN	1.000	MODE	1.000
SKEWNESS	2.496				

VALID OBSERVATIONS - 292
MISSING OBSERVATIONS - 286

INFORMATION FOR STAFF AND ABOUT PROCEDURES

. The fourth and final group of variables to be discussed are those which pertain to interlibrary loan staffing and procedures. These include: book verification, periodical verification, newspaper verification, dissertation verification, source of location of material, verification difficulty, method of transmission of request, library supplying the request, and which library in a series of passes for a particular request supplied the request, or, if they did not, why not.

Book Verification

Table XX---Book Verification (page 63) shows that there were 238 valid observations or that 41.2 per cent of the total sample was for book requests.

The value CoU-CoU-H is defined as CoU: the University of Colorado Libraries, Boulder card catalog which contains the main entry cards from the University of Colorado at

VARIABLE BVERIF BOOK VERIF

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
NOT VERIFIED	0.00	5	0.9	2.1	2.1
COU OR COUM	1.00	35	6.1	14.7	16.8
LC,NUC CAT	2.00	167	28.9	70.2	87.0
BM CAT	3.00	3	0.5	1.3	88.2
OBV	5.00	2	0.3	0.8	89.1
SUBJT BIBLIO	7.00	1	0.2	0.4	89.5
LARGE RESRCH LIB CAT	8.00	16	2.8	6.7	96.2
OTHER	9.00	9	1.6	3.8	100.0
	13.00	340	58.8	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	2.538	MEDIAN	2.000	MODE	2.000
SKEWNESS	2.234				

VALID OBSERVATIONS - 238
MISSING OBSERVATIONS - 340

Denver and the University of Colorado at Colorado Springs; CoU-M: the University of Colorado Medical Center Library Author Catalog. Of the requests, 84.9 per cent were verified in either CoU-CoU-M (14.9 per cent) or LC-NUC (70 per cent).

This seems to suggest that the interlibrary loan bibliographic searchers who understand and can use LC-NUC and the catalogs at the University of Colorado Libraries will be able to deal effectively with a vast majority of the incoming book requests.

Periodical Verification

Table XXI---Periodical Verification (page 65) shows 315 valid observations, 54.6 per cent of the total sample. The lack of significant results, comparing this table to the second page of Appendix II, seems to indicate that a large variety of periodical indexes should be maintained, especially the major periodical indexes for all the fields

TABLE XXX---PERIODICAL VERIFICATION

VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
O	198	34.3	34.3	34.3
[illegible]	10	1.7	1.7	36.0
[illegible]	19	3.3	3.3	39.3
	263	45.5	45.5	84.8
Z	54	9.3	9.3	94.1
L	8	1.4	1.4	95.5
U	2	0.3	0.3	95.8
[illegible]	1	0.2	0.2	96.0
[illegible]	3	0.5	0.5	96.5
[illegible]	5	0.9	0.9	97.4
1	1	0.2	0.2	97.6
K	7	1.2	1.2	98.8
[illegible]	5	0.9	0.9	99.7
H	1	0.2	0.2	99.8
C	1	0.2	0.2	100.0
????	0	0.0	MISSING	100.0
TOTAL	578	100.0	100.0	100.0

VALID OBSERVATIONS = 578
MISSING OBSERVATIONS = 0

of knowledge. This means that the bibliographic searchers, to handle effectively this type of request, would have to be trained in finding and using a large number of periodical indexes.

Newspaper Verification

The results in Table I---Newspaper Verification (page 16) were not significant other than for inferring that Newspapers on Microfilm and Union List of Newspapers are two necessary tools.

Dissertation Verification

Table XXII---Dissertation Verification (page 67) also yielded a very small sample of the total, 3.3 per cent. Dissertation Abstracts International is a very valuable bibliographic tool. It does not, however, help in borrowing these since these dissertations are deposited with University Microfilms, Inc., where they are available for purchase. American Doctoral Dissertations is the only other

TABLE XXII---DISSERTATION VERIFICATION

VARIABLE DVERIF DISSERT VERIF

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	2	0.3	10.5	10.5
	1.00	6	1.0	31.6	42.1
	2.00	1	0.2	5.3	47.4
	4.00	2	0.3	10.5	57.9
	6.00	4	0.7	21.1	78.9
	7.00	3	0.5	15.8	94.7
	8.00	1	0.2	5.3	100.0
	13.00	559	96.7	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	3.632	MEDIAN	4.000
SKEWNESS	0.103		

MODE 1.000

VALID OBSERVATIONS - 19
MISSING OBSERVATIONS - 559

really useful tool for schools that do not deposit with University Microfilms, Inc.

Now, following the examination of the verification of the different types of material, some of the inter-library loan procedures will be discussed.

Source of Location of Material

Table XXIII---Source of Location of Material (page 69) had 578 valid observations. The Union List of Serials, New Serials Titles, National Union Catalog, and individual library serials catalogs were very useful tools, locating 71.2 per cent of the requests. The Bibliographical Center for Research and the Union Catalog Reference Unit of the Library of Congress were a distant second, locating 8.1 per cent of the requests. The value "direct", 3.1 per cent, was mostly masters' theses, these being located and obtained directly from the university where they were completed. Access to the location for the majority of items seems to

TABLE XIII---SOURCE OF LOCATION OF MATERIAL

VARIABLE SOURCE SOURCE OF LOC

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
UNABLE TO	0.00	8	1.4	1.4	1.4
ULS	1.00	76	13.1	13.1	14.5
NST	2.00	26	4.5	4.5	19.0
SERIALS CAT OF OTHER	3.00	194	33.6	33.6	52.6
NUC CAT AT	4.00	117	20.2	20.2	72.8
BIB CEN	5.00	19	3.3	3.3	76.1
DLC-UCRU	6.00	28	4.8	4.8	81.0
LARGE RESCH LIB CAT	7.00	17	2.9	2.9	83.9
DIRECT	8.00	18	3.1	3.1	87.0
OTHER	9.00	75	13.0	13.0	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	4.116	MEDIAN	3.000	MODE	3.000
SKEWNESS	0.799				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

be in several standard tools and from location agencies specifically designed for locating material.

Verification Difficulty

Table XXIV---Verification Difficulty (page 71) had 578 valid observations, including 215 not verified. Most of the latter were medical requests for which an agreement exists stating that requests can be sent by the University of Colorado at Boulder to the University of Colorado Medical Center Library in Denver unverified. The majority of verifiable requests, however, were rated as easy. Those which were not easy can require several hours of searching per request.

Method of Transmission

When the results in Appendix V were synthesized, it was found that the method of transmission was almost equally divided among mail, TWX, and courier, with courier being the predominant method of transmission.

TABLE XXIV--VERIFICATION DIFFICULTY

VARIABLE VERDIF VERIF DIFF

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
UNKNOWN	0.00	1	0.2	0.2	0.2
EASY	1.00	315	54.5	54.5	54.7
MODERATE	2.00	29	5.0	5.0	59.7
DIFF	3.00	18	3.1	3.1	62.8
NOT VERIF	4.00	215	37.2	37.2	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	2.227	MEDIAN	1.000	MODE	1.000
SKEWNESS	0.370				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

Library Supplying the Request

The following table shows the rank distribution of lending libraries according to the University of Colorado Libraries' Interlibrary Loan Service's Annual Report[16] and the results of this investigation. (See Appendix IV.)

CU ILL Annual Report	Investigation
1. U. of Colorado-Medical Center	1. U. of Colorado-Medical Center
2. Colorado State U.	2. Colorado State U.
3. U. of Kansas	3. U. of Texas
4. U. of Colorado-Denver Center	4. Library of Congress
5. U. of Illinois-Urbana	5. U. of Nebraska-Lincoln
6. Indiana U.	6. U. of Colorado-Colorado Springs
7. U. of Missouri-Columbia	U. of Colorado-Denver Center
8. Library of Congress	8. Iowa State U.
9. U. of Iowa	9. U. of Iowa
10. U. of Nebraska-Lincoln	10. Louisiana State U.

This table shows that the libraries listed in the Annual Report tended to be the libraries most represented in this sample.

Library Passes

Once the item had been verified and a location for it determined, it was transmitted to the first of five possible libraries as defined in this investigation.

The first pass at a library filled 78 per cent of the requests sent out by the Boulder interlibrary loan office, the second pass disposed of another 8.3 per cent of the requests, the third pass netted 2.1 per cent more, the fourth pass 1 per cent, and the fifth .5 per cent of the requests in the sample. Of the requests, 89.9 per cent were filled at some library, while 10.1 per cent were not filled.

In Table V---Request Returned to Borrower (page 28) the reasons for the return of the requests are shown. These reasons account for 9.4 per cent of the 10.1 per cent of the requests not filled. This 9.4 per cent were requests that for one reason or another did not leave the office. The remaining .7 per cent are the requests that were sent

out and not filled by a library. This .7 per cent of the requests showed up only as a discrepancy in the totals of various tables.

The reasons for requests not being filled as totalled from the five possible library passes were: non-circulating---3.2 per cent; in use---2.0 per cent; at bindery---1.2 per cent; not owned---6.7 per cent; missing 3.8 per cent; other---1.4 per cent. The results are in agreement with Palmour[17], although in comparison, the University of Colorado inter-library loan staff did a much better job of locating libraries that supposedly owned the item than the 53.8 per cent of the requests in the Palmour study that were not filled because the item was not owned. This would seem to indicate that the tools used to locate a library which owns an item are misleading almost 7 per cent of the time.

For the value "not owned", the figure 6.7 per cent seems to be high, despite verification and location

for a very high percentage of requests, excluding the items that were located in the University of Colorado Libraries' catalogs.

CONCLUSIONS

The preceding discussion has given the answers to the questions regarding costs and time and has produced some observations as to the number of passes necessary to procure an item.

There are several areas in which this investigation could be improved:

(1) There should be a method of measuring times for libraries that did not fill the request.

(2) There should be some method of accounting for requests that were sent out to other libraries but were not filled.

(3) There should be added a procedure for determining the language of periodical requests.

(4) Periodical verification variable, Table XXI, on page 65, could probably be eliminated since the requests are from such a wide variety of periodical indexes as to make any tabulation relatively meaningless.

(5) The request forms should be revised so as to include all of the information, thus eliminating the necessity of writing in an item. This would greatly facilitate the coding process.

In conclusion, this investigation did uncover information relating to the borrower through a discussion of the data concerning borrower characteristics. Information about the characteristics of the material borrowed tended to agree with other interlibrary loan studies, although the results connected with the variable language were not as accurate as they could have been.

The questions that the borrower most often asks, those concerning cost of material and the length of time necessary to acquire the material, can now be answered with a greater degree of certainty.

In the area of procedures and information for the staff, procedures for verification of the different types of material and where to find it were discussed in light of the data acquired. Training of staff and explanations of procedures can now be expedited.

Two facts that had not been discussed before were:

(1) the number of passes a request had to make before it was filled and (2) the heavy user concept which causes an imbalance to show up in the statistics of a single library.

The study was worthwhile in another respect in that facts are now available about the University of Colorado Libraries' interlibrary loan operation rather than mere conjecture on which to base decisions about the operation.

APPENDIX I---INTERLIBRARY LOAN REQUEST FORMS

APPENDIX I-1

INTERLIBRARY LOAN REQUEST

BOOKS

PLEASE PRINT CLEARLY Date:

Author:

Title:

Place: Publisher: Date Published:

Series:

Source of reference: Author, title, place, publisher, date, and page number of where you found mention of this title. (Please include call number if book is in our library.)

****

Name of Borrower:_____

Mailing Address
(Including city if not Boulder)

Department:

Phone:

Status: Faculty_____ Graduate_____ Staff_____

Degree toward which you are working: Ph.D._____ Ed.D._____ M.A._____
M.S. _____M.F.A._____

****

Verified: LC NUC BM BN DBV CBI BIP BBIP CoU CoU-M
Other:

Locations: CoDB DLC-UCD ULS NST Other:

Requested of:

Received: Due:
Renewal Requested: Due: Returned:
10-71

APPENDIX 1-2

INTERLIBRARY LOAN REQUEST - PERIODICALS

PLEASE PRINT CLEARLY -- DO NOT ABBREVIATE Date:

Title of periodical:

Volume number and year:

Author of article:

Title and pages of article:

Source of reference (where you found mention of this title). YOUR FORM WILL BE RETURNED IF YOU DO NOT SUPPLY THIS INFORMATION.

****

Libraries restrict their periodicals to campus use only. For this reason your request will be filled by a photocopy of the needed material (xerox for shorter articles and microfilm for very long articles). Please sign below to indicate your willingness to pay for photocopy. The price is determined by the library supplying the material.

SIGNATURE_____ XEROX_____ MICROFILM_____

****

Name of Borrower:_____

Mailing Address (Including zip code and city if not Boulder):

Department:

Phone:

Status: Faculty_____ Graduate_____ Staff_____

Degree toward which you are working: Ph.D.____ Ed.D.____ M.A.____ M.S.____ M.F.A.____

****

Verified:

Locations: CoU ULS NST CoU-M AULS Other:

Requested of:	Xerox	Microfilm

Received: Cost:

Due: Returned:

CoU - 5/70

APPENDIX I-3

INTERLIBRARY LOAN REQUEST

PLEASE PRINT CLEARLY -- DO NOT ABBREVIATE Date:

Title of newspaper:

Volume number and year:

Source of reference: (where you found mention of this title)

* * * * * * * * * * * *

* * * * * * * * * * * *

Borrower:

Faculty - Staff:

Mailing Address:

Department: Phone:

Graduate:

Mailing Address:

Phone: Circle degree toward which you are working:
Ph. D. Ed. D. M. A. M. S.

* * * * * * * * * * * *

Verified: CoU ULM NOM Other:

Locations:

Requested of:

Received:

Due: Returned:

CoU -- 1/12/66

APPENDIX I-4

INTERLIBRARY LOAN REQUEST

THESIS

PLEASE PRINT CLEARLY

Date:

Author:

Title:

University: Degree: Date:

Source of reference: Author, title, publisher, date, and page number of where you found mention of this title. (Please include call number if book is in our library.)

.....

Before submitting this request, please check with Interlibrary Loans regarding the lending policy of the institution which you have listed above. Most dissertations are available through University Microfilms and loan copies are not available.

.....

Name of Borrower:_____

Mailing Address:
(Including city if not Boulder)

Department:

Phone:

Status: Faculty_____ Graduate_____ Staff_____

Degree toward which you are working: Ph.D._____ Ed.D._____ M.A._____

M.S._____ M.F.A._____

.....

Policy:

Verified:

Requested of:

Received:

Due: Returned:

CoU -- 2/73

APPENDIX II---CODING FOR BORROWING INFORMATION PROJECT

Interlibrary Loan Service
University of Colorado Libraries

Borrowing Information Project

Column on computer card	Information
1 - 3	Transaction number (arbitrarily assigned number)
4	Space
5	Borrower Status 0 - Faculty 1 - Graduate student - master's candidate 2 - Graduate student - doctoral candidate 3 - Staff 4 - Undergraduate student 5 - Acquisitions Department, Library 6 - Serials Department, Library 7 - Other
6	Space
7 - 9	Department or school of the university (Numbers can be taken from "Schedule of Courses")
10	Space
11	Personal screening of request with user 0 - Request not screened with user 1 - Request screened with user 2 - Screening status unknown
12	Space
13	Verification for books 0 - Not verified 1 - CoU or CoU-M 2 - LC, NUC catalogs 3 - British Museum catalogs 4 - Bibliotheque Nationale. Catalogue General 5 - DBV or other German bibliographies 6 - Other national bibliographies, etc. 7 - Standard bibliography in subject field 8 - Large research library catalogs 9 - Other
14	Space

15 Verification for periodicals

A - L'Annee philologique
B - Art Index
C - Avery Index to architectural periodicals
D - Bibliographie der Deutschen Zeitshcriften-literatur and Bibliographie der fremdsprachigen Zeitschriftenliteratur (IBZ)
E - Bibliography and index of geology
F - Biological abstracts
G - Business periodicals index
H - Cambridge Bibliography of English literature
I - Chemical abstracts
J - Cumulative index medicus
K - Education index or CIJE
L - Engineering index or Applied science and technology index
M - Geographical abstracts
N - Historical abstracts
O - Index of economic journals or Ecnonomic abstracts
P - Index to Latin America periodicals
Q - Mathematical reviews
R - Modern Language Association. MLA international bibliography
S - Music index
T - Peabody Museum of Archaeology and Ethnology. Library. Author catalog or Subject catalog.
U - Physics abstracts
V - Psyschological abstracts
W - Public Affairs Information Service Bulletin
X - Science citation index
Y - Sociological abstracts
Z - Other
Ø - Not verified
1 - Social Science and humanities index

16 Space

17 Verification for newspapers

0 - Newspapers on microfilm
1 - Union list of newspapers
2 - Guide to microforms in print
3 - Center for Research Libraries newspaper list
4 - Catalog of newspapers of a particular state
5 - Catalog of newspapers of a particular library
6 - Catalog of newspapers of a particular subject
7 - Other
8 - Not verified

18 Space

19 Verification for dissertations

0 - Dissertation abstracts
1 - American doctoral dissertations
2 - LC, NUC catalogs
3 - Other national bibliographies
4 - Dissertations bibliography by subject field
5 - Dissertations bibliography by university
6 - Other
7 - Not verified

20 Space

21 Source of location

0 - Unable to locate
1 - Union list of serials
2 - New serials titles
3 - Serials catalogs of other libraries
4 - NUC catalogs at CoU
5 - Bibliographic Center
6 - NUC, Washington, D. C. DLC-UCRU
7 - Large reserach library catalogs
8 - Direct
9 - Other

22 Space

23 Language of request

0 - English
1 - German
2 - French
3 - Italian
4 - Latin
5 - Spanish
6 - Greek
7 - Oriental
8 - Russian and other Slavic
9 - Other

24 Space

25 Date of requested material

0 - Before 1649
1 - 1650-1699
2 - 1700-1749
3 - 1750-1799
4 - 1800-1849
5 - 1850-1899
6 - 1900-1939
7 - 1940-1969
8 - 1970-1973

9 - Unknown

26 Space

27-28 Subject of requested material (LC)

29 Space

30 Form of material requested

0 - Book
1 - Government document
2 - Thesis
3 - Periodical, bound or loose issue
4 - Microfilm to borrow
5 - Xerox of periodical
6 - Xerox of other material
7 - Microfilm to purchase
8 - Other microforms
9 - Other

31 Space

32 Verification difficulty

0 - Unknown
1 - Easy
2 - Moerate
3 - Difficult
4 - Not verified

33 Space

34 Request returned to library user from Inter-library Loan Service

0 - Request not returned
1 - Material in library - being held
2 - Material being ordered or catalogued - rush placed
3 - Material being used - call in placed
4 - Material on reserve
5 - Material at bindery
6 - Thesis available from University Microfilms
7 - Unable to verify as cited - furnish source of reference
8 - Library user cancelled request
9 - Other

35 Soace

Borrowing Information Project - Page 5

36-37	Time from submission of request to completion of initial processing in ILL office (number of days)
38	Space
39-40	Time for Bibliographic Center to answer (number of days)
41	Space
42	Bibliographic Center answer 0 - Not sent to them 1 - Sent to them and locations provided 2 - Sent to them and locations not provided 3 - Other
43	Space
44-45	Time for NUC, Washington, D. C. to answer (number of days)
46	Space
47	NUC answer 0 - Not sent to them 1 - Locations provided in U.S. 2 - Locations provided outside of U.S. 3 - Locations not provided 4 - Other answer
48	Space
49	Request sent to 1st library 0 - Not sent to library 1 - Request filled 2 - Request not filled - non-circulating 3 - Request not filled - in use 4 - Request not filled - at bindery 5 - Request not filled - not owned 6 - Request not filled - citation incorredt 7 - Request not filled - missing 8 - Request not filled - other

Borrowing Information Project - page 6

50 Method of request

0 - Unknown
1 - Courier
2 - TWX
3 - Telephone
4 - U.S. mail
5 - Other

51 Space

52 Request sent to 2nd library

0 - Not sent to library
1 - Request filled
2 - Request not filled - non-circulating
3 - Request not filled - in use
4 - Request not filled - in bindery
5 - Request not filled - not owned
6 - Request not filled - citation incorrect
7 - Request not filled - missing
8 - Request not filled - other

53 Method of request

0 - Unknown
1 - Courier
2 - TWX
3 - Telephone
4 - U.S. mail
5 - Other

54 Space

55 Request sent to 3rd library

0 - Not sent to library
1 - Request filled
2 - Request not filled - non-circulating
3 - Request not filled - in use
4 - Request not filled - at bindery
5 - Request not filled - not owned
6 - Request not filled - citation incorrect
7 - Request not filled - missing
8 - Request not filled - other

56 Method of request

0 - Unknown
1 - Courier
2 - TWX
3 - Telephone
4 - U.S. mail
5 - Other

57 Space

58 Request sent to 4th library

0 - Not sent to library
1 - Request filled
2 - Request not filled - non-circulating
3 - Request not filled - in use
4 - Request not filled - at bindery
5 - Request not filled - not owned
6 - Request not filled - citation incorrect
7 - Request not filled - missing
8 - Request not filled - other

59 Method of request

0 - Unknown
1 - Courier
2 - TWX
3 - Telephone
4 - U.S. mail
5 - Other

60 Space

61 Request sent to 5th library

0 - Not sent to library
1 - Request filled
2 - Request not filled- non-circulating
3 - Request not filled - in use
4 - Request not filled - at bindery
5 - Request not filled - not owned
6 - Request not filled - citation incorrect
7 - Request not filled - missing
8 - Request not filled - other

62 Method of request

0 - Unknown
1 - Courier
2 - TWX
3 - Telephone
4 - U. S. mail
5 - Other

63 Space

64-68 Library supplying request (ULS symbols)

69 Space

70 Form of request received

0 - Book
1 - Thesis
2 - Periodical, bound or loose issue
3 - Microfilm to borrow
4 - Xerox of periodical
5 - Xerox of other material
6 - Microfilm to purchase
7 - Other microforms
8 - Other

71 Space

72 Cost incurred for borrowing

0 - Material purchased and not borrowed
1 - Postage costs returned to lending library
2 - Insurance costs returned to lending library
3 - Other costs such as air mail
4 - Book borrowing cost
5 - Other
6 - No costs incurred
7 - Any multiple of 1-6

73	Space
74	Costs for photocopy 0 - Photocopy not requested 1 - Free 2 - Costs to $.99 3 - Costs from $1.00 to $1.99 4 - Costs from $2.00 to $2.99 5 - Costs from $3.00 to $3.99 6 - Costs from $4.00 to $4.99 7 - Costs from $5.00 to $9.99 8 - Costs from $10.00 to $19.99 9 - Costs exceeding $20.00
75	Space
76-77	Time from beginning of transmission to lending libraries until arrival of material: actual number of days
78	Space
79-80	Time from submission of request to arrival of material - total transaction time: actual number of days

APPENDIX III---LISTER PROGRAM OUTPUT

```
290  0 417  0    0          2  0  7  QA  5  4  0  0  6     0     0  12     MOU     4  0  2  15  21
291  0 417  1    L          1  0  6  VM  5  1  0  0  0     0     0  12     MOU     4  0  3  06  06
292  0 415  1    0          1  0  7  HR  5  1  0  0  0     0     0  11     COFS    4  0  2  05  05
283  6 016  0    0          9  0  7  PJ  5  4  0  0  0     0     0  11     COFS    4  6  1  10  10
294  4      0    0          3  0  8  HG  5  4  0  0  0     0     0  11     COUM    4  6  1  13  13
296  6 016  0    0          1  0  8  HM  5  4  0  0  1     0     0  12     KU      4  6  1  21  22
287  2 454  0    Z          2  8  7  QL  5  2  0  0  2     0  54 52 12     MOKL    4  0  2  39  41
288  1 440  1    Z          2  0  9  VM  5  3  0  0  5     0  82 14        MIU     4  0  5  49  54
289  6 016  0    0          2  0  8  QD  5  4  0  0  1     0     0  12     MOU     4  0  2  18  19
290  2 161  1    V          1  0  8  RF  5  1  0  0  1     0     0  12     KMK     4  0  2  09  10
291  0 407  0    F          9  2  7  QK  5  1  1
292  0 407  0    F          9  0  7  QK  5  1  1
293  4      1    0          9  0  8  RC  5  4  1
294  4      0    Z          9  0  8  RK  5  1  1
```

APPENDIX IV---LIBRARY SUPPLYING REQUEST

VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
COUM	176	30.4	30.4	30.4
COFS	21	3.6	3.6	34.1
CU	4	0.7	0.7	34.8
CLU	5	0.9	0.9	35.6
	58	10.0	10.0	45.7
COBB	2	0.3	0.3	46.0
UPB	4	0.7	0.7	46.7
NCD	5	0.9	0.9	47.6
AZU	2	0.3	0.3	47.9
COAL	1	0.2	0.2	48.1
ICU	4	0.7	0.7	48.8
NIC	4	0.7	0.7	49.5
INU	9	1.6	1.6	51.0
IDU	2	0.3	0.3	51.4
CSTH	5	0.9	0.9	52.2
COCA	1	0.2	0.2	52.4
CODU	5	0.9	0.9	53.3
IU	10	1.7	1.7	55.0
COUC	12	2.1	2.1	57.1
COUD	12	2.1	2.1	59.2
IAAS	11	1.9	1.9	61.1
IAU	5	0.9	0.9	61.9
DLC	13	2.2	2.2	64.2
LU	10	1.7	1.7	65.9

MIU	4	0.7	0.7	66.6
CST	3	0.5	0.5	67.1
TXU	16	2.8	2.8	69.9
VIU	2	0.3	0.3	70.2
MOSW	2	0.3	0.3	70.6
MOSU	1	0.2	0.2	70.8
WU	4	0.7	0.7	71.5
PP	1	0.2	0.2	71.6
OCU	1	0.2	0.2	71.8
CODA	1	0.2	0.2	72.0
COGU	1	0.2	0.2	72.1
OU	6	1.0	1.0	73.2
MH	5	0.9	0.9	74.0
ORU	5	0.9	0.9	74.9
NCU	4	0.7	0.7	75.6
OO	1	0.2	0.2	75.8
UU	3	0.5	0.5	76.3
NJP	1	0.2	0.2	76.5
KU	8	1.4	1.4	77.9
DNAL	4	0.7	0.7	78.5
NBUU	1	0.2	0.2	78.7
NDU	1	0.2	0.2	78.9
IEDS	2	0.3	0.3	79.2
MIDW	1	0.2	0.2	79.4
CTY	7	1.2	1.2	80.6
CURI	2	0.3	0.3	81.0
WAU	5	0.9	0.9	81.8

CLSU	2	0.3	0.3	82.2
IEN	5	0.9	0.9	83.0
NBU	13	2.2	2.2	85.3
MSHM	1	0.2	0.2	85.5
MOU	7	1.2	1.2	86.7
TXEU	1	0.2	0.2	86.9
COD	6	1.0	1.0	87.9
COBA	2	0.3	0.3	88.2
ULA	1	0.2	0.2	88.4
NMU	1	0.2	0.2	88.6
MNS	1	0.2	0.2	88.8
MSC	1	0.2	0.2	88.9
MTHI	1	0.2	0.2	89.1
MHBA	4	0.7	0.7	89.8
DNLM	7	1.2	1.2	91.0
MOUM	2	0.3	0.3	91.3
OKU	5	0.9	0.9	92.2
C	4	0.7	0.7	92.9
MOKL	1	0.2	0.2	93.1
KMK	8	1.4	1.4	94.5
NNE	1	0.2	0.2	94.6
MOBJ	1	0.2	0.2	94.8
KUM	2	0.3	0.3	95.2
FU	1	0.2	0.2	95.3
DIGS	1	0.2	0.2	95.5
MNU	3	0.5	0.5	96.0
MHA	1	0.2	0.2	96.2

CODM	1	0.2	0.2	96.4
CAQM	1	0.2	0.2	96.5
CUS	1	0.2	0.2	96.7
DCLW	1	0.2	0.2	96.9
OCLW	1	0.2	0.2	97.1
PPCC	1	0.2	0.2	97.2
CCC	1	0.2	0.2	97.4
NNC	1	0.2	0.2	97.6
DGU	1	0.2	0.2	97.8
MHGM	1	0.2	0.2	97.9
WYU	2	0.3	0.3	98.3
OKS	1	0.2	0.2	98.4
PU	1	0.2	0.2	98.6
NRU	1	0.2	0.2	98.8
NJR	1	0.2	0.2	99.0
MEU	1	0.2	0.2	99.1
MIEM	1	0.2	0.2	99.3
CSS	1	0.2	0.2	99.5
OKEN	1	0.2	0.2	99.7
CAAE	1	0.2	0.2	99.8
WHI	1	0.2	0.2	100.0
????	0	0.0	MISSING	100.0
TOTAL	578	100.0	100.0	100.0

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

APPENDIX V---METHOD OF REQUESTS TO LIBRARIES

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	56	9.7	9.7	9.7
	1.00	225	38.9	38.9	48.6
	2.00	159	27.5	27.5	76.1
	4.00	125	21.6	21.6	97.8
	5.00	13	2.2	2.2	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	1.917	MEDIAN	2.000	MODE	1.000
SKEWNESS	0.655				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

First library

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	508	87.9	87.9	87.9
	1.00	7	1.2	1.2	89.1
	2.00	25	4.3	4.3	93.4
	4.00	38	6.6	6.6	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.362	MEDIAN	0.000	MODE	0.000
SKEWNESS	2.852				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

Second Library

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	556	96.2	96.2	96.2
	1.00	3	0.5	0.5	96.7
	2.00	6	1.0	1.0	97.8
	4.00	13	2.2	2.2	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.116	MEDIAN	0.000	MODE	0.000
SKEWNESS	5.637				

VALID OBSERVATIONS = 578
MISSING OBSERVATIONS = 0

Third library

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	569	98.4	98.4	98.4
	1.00	1	0.2	0.2	98.6
	2.00	3	0.5	0.5	99.1
	4.00	5	0.9	0.9	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.047	MEDIAN	0.000	MODE	0.000
SKEWNESS	9.086				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

Fourth library

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	575	99.5	99.5	99.5
	1.00	1	0.2	0.2	99.7
	2.00	1	0.2	0.2	99.8
	4.00	1	0.2	0.2	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.012	MEDIAN	0.000	MODE	0.000
SKEWNESS	18.157				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

Fifth library

APPENDIX VI---REQUESTS SUPPLIED BY LIBRARIES

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	56	9.7	9.7	9.7
	1.00	451	78.0	78.0	87.7
	2.00	14	2.4	2.4	90.1
	3.00	6	1.0	1.0	91.2
	4.00	6	1.0	1.0	92.2
	5.00	26	4.5	4.5	96.7
	7.00	12	2.1	2.1	98.8
	8.00	7	1.2	1.2	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	1.369	MEDIAN	1.000	MODE	1.000
SKEWNESS	2.902				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

First library

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	508	87.9	87.9	87.9
	1.00	48	8.3	8.3	96.2
	2.00	2	0.3	0.3	96.5
	3.00	4	0.7	0.7	97.2
	4.00	1	0.2	0.2	97.4
	5.00	9	1.6	1.6	99.0
	7.00	6	1.0	1.0	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.268	MEDIAN	0.000	MODE	0.000
SKEWNESS	4.985				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

Second Library

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	556	96.2	96.2	96.2
	1.00	12	2.1	2.1	98.3
	2.00	3	0.5	0.5	98.8
	3.00	2	0.3	0.3	99.1
	5.00	2	0.3	0.3	99.5
	7.00	3	0.5	0.5	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.095	MEDIAN	0.000	MODE	0.000
SKEWNESS	8.756				

VALID OBSERVATIONS - 578
MISSING OBSERVATIUNS - 0

Third Library

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	569	98.4	98.4	98.4
	1.00	6	1.0	1.0	99.5
	5.00	2	0.3	0.3	99.8
	8.00	1	0.2	0.2	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.042	MEDIAN	0.000	MODE	0.000
SKEWNESS	13.948				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

Fourth Library

VALUE LABEL	VALUE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ADJUSTED FREQUENCY (PERCENT)	CUMULATIVE ADJ FREQ (PERCENT)
	0.00	575	99.5	99.5	99.5
	1.00	3	0.5	0.5	100.0
	13.00	0	0.0	MISSING	100.0
	TOTAL	578	100.0	100.0	100.0

STATISTICS..

MEAN	0.005	MEDIAN	0.000	MODE	0.000
SKEWNESS	13.772				

VALID OBSERVATIONS - 578
MISSING OBSERVATIONS - 0

Fifth Library

ENDNOTES

[1]Sarah Katharine Thomson, Interlibrary Loan Involving Academic Libraries (Chicago: American Library Association, 1970).

[2]Vernon Palmour, et al, A Study of the Characteristics, Costs, and Magnitude of Interlibrary Loans in Academic Libraries (Westport, Co.: Greenwood, 1972).

[3]Rolland E. Stevens, A Feasibility Study of Centralized and Regionalized Interlibrary Loan Centers (Washington, D.C.: Association of Research Libraries, 1973).

[4]Thomson, Interlibrary Loan in Academic Libraries, p. 2.

[5]Ibid., pp. 2-3.

[6]Palmour, Study of Characteristics, p. 6.

[7]Ibid., pp. 9, 94.

[8]Stevens, Feasibility Study, p. 10.

[9]Sarah Katharine Thomson, Interlibrary Loan Procedure Manual (Chicago: American Library Association, 1970).

[10]Thomson, Interlibrary Loan in Academic Libraries, p. 10.

[11]California, University, Berkeley, Libraries, Interlibrary Lending and Borrowing, Annual Report (Berkeley: University of California, 1973), p. 3.

[12]Thomson, Interlibrary Loan in Academic Libraries, p. 31.

[13]Stevens, Feasibility Study, p. 10.

[14]Palmour, Study of Characteristics, p.40-42.

[15]Ibid., p.42.

[16]Colorado, University, Libraries, Interlibrary Loan Service, Annual Report (Boulder: University of Colorado, 1973), pp. 7-8.

[17]Palmour, Study of Characteristics, p.46.

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